REMARKS

This application has been reviewed in light of the Office Action dated January 2, 2004 (Paper No. 24). Claims 1 to 57 are in the application, of which Claims 1, 18, 35 and 52 to 57 are independent claims. Reconsideration and further examination are respectfully requested.

Applicant wishes to thank the Examiner for the courtesies extended to Applicant's representative during the June 15, 2004 telephonic interview in which the Examiner clarified her rejections based on Beall's disclosure of islands and hatching patterns. This Amendment has been prepared giving due consideration to the points noted in the Office Action of January 2, 2004 and based on the interview.

Claims 1 to 60 were rejected under 35 U.S.C. § 102(e) over Inside AutoCAD 14, July 1997, chapters 16, 17 (Beall). The rejection is respectfully traversed.

The present invention concerns generating a graphical object comprising a plurality of closed loops. One or more closed first curves defining a boundary of a surface are used in conjunction with a set of continuous second curves lying on the surface defined by the closed first curves and intersecting the first curves. From the two set of curves, a set of intersection points is determined, these points being points where the closed first curves are intersected by the continuous second curves. A plurality of closed loops is assembled from curve intervals using the set of one or more closed first curves and the set of continuous second curves. The plurality of closed loops is filled to produce the graphical object. In this way, the present invention provides for modification of a computer typeface without altering the typeface's basic overall outline shape.

Turning now to specific claim language, amended independent Claim 1 is directed to a computer-implemented method for generating a graphical object comprising a plurality of closed loops, the method comprising the steps of: a first providing step of providing a set of one or more closed first curves defining a boundary of a surface, wherein the set of one or more closed first curves contains no self-crossover points; a second providing step of providing a set of continuous second curves lying on the surface, wherein each of the continuous second curves intersects and crosses over one or more of the closed first curves but does not intersect other ones of the continuous second curves and wherein the set of continuous second curves contains no self-crossover points; a first determining step in which the computer determines a set of intersection points, wherein the intersection points are those points where the one or more closed first curves intersect the continuous second curves and which lie on the boundary of the surface; a second determining step in which the computer determines a set of crossover points from the determined set of intersection points; an assembling step in which the computer assembles, without user intervention, the plurality of closed loops from curve intervals, delimited by adjacent determined crossover points, from the set of one or more closed first curves and the set of continuous second curves in accordance with a predetermined rule, whereby the plurality of closed loops abuts a substantial portion of the boundary of the surface and whereby each of the plurality of closed loops does not share a curve interval with any other one of the closed loops; and a filling step in which the computer fills the plurality of closed loops with a fill to produce the graphical object.

In contrast, Beall discloses a user mediated hatching or fill process that requires a user to select an appropriate area for filling and that the area to be filled has to be completely bounded by one or more graphical objects.

According to Beall, a user can define an area to be filled by choosing pick points within the area. Beall describes four separate pick point scenarios. In a first scenario, the area is bounded by a circle and the pick point must be within an interior portion of the circle. In a second scenario, the area is bounded by a plurality of lines that meet end-to-end. In a third scenario, the area is bounded by straight lines and an arc that cross over each other do not meet end-to-end. To fill any of the areas under the three pick point scenarios, a user must select a pick point within the area to be filled. (Page 4, paragraphs 4 to 6, and Figure 17.4). In a fourth scenario, Beall discloses that enclosed areas within the overall area to be hatched are referred to as "islands." Islands may be within other islands. Text objects lying within the area to be hatched are also considered islands. Beall discloses that the pick point methods for defining a hatch area can be used to select a bounded area having islands. The manner in which the islands are hatched or not hatched may be set by the user. (Page 5, paragraphs 5 and 6, Figures 17.5 to 17.7).

In the first scenario, a closed curve is used as a boundary defining an interior portion of the closed curve as a fill area , however, there are no intersecting continuous curves used in conjunction with the closed curve to generate a graphical object comprising a plurality of closed loops. In the second scenario, there are neither closed curves nor intersecting continuous curves as there are only straight lines meeting end-to-end bounding the area . As the scenario only discloses end-to-end straight lines, it cannot be said that the second scenario discloses using closed curves intersected by continuous

curves to generate a graphical object comprising a plurality of closed loops. In the third scenario, there are continuous curve intersecting other continuous curves. However, no closed curves are disclosed. As there are no closed curves, it cannot be said that the third scenario discloses using a set of closed curves and a set of continuous curves intersecting the closed curves to generate a graphical object. In the fourth scenario, there are a plurality of closed curves, however, none of the closed curves intersect any other curve. Therefore, none of the pick point scenarios disclosed by Beall disclose Applicant's use of both a set of closed curves and a set of continuous curves intersecting the closed curves to generate a graphical object comprising a plurality of closed loops object as claimed in independent Claim 1.

Beall further discloses a boundary object selection scenario wherein a user selects a series of boundary objects that define an area to be filled. The boundary object selection method may be used to select boundary objects for defining islands as well. However, "(i)f more than one boundary object exists, *the objects must meet end-to-end,* as illustrated by Area B in figure 17.4. This method produces erroneous hatch objects with Area C of figure 17.4 because the boundary objects in that area do not meet end-to-end." (Page 4, Paragraph 7, emphasis added). Therefore, Beall's object selection scenario cannot be used to implement Applicant's use of a set of closed first curves and a set of continuous second curves, wherein each of the continuous second curves intersects and crosses over one or more of the closed first curves, to generate a graphical object comprising a plurality of closed loops.

In light of the foregoing, it can be seen that none of the hatching or filling scenarios of Beall disclose Applicant's present invention as claimed in amended

independent Claim 1. Furthermore, the disclosures of Beall teach away from Applicant's use of a set of closed curves with a set of continuous curves intersecting the closed curves to generate a graphical object comprising a plurality of closed loops.

In regard to Beall's pick point scenarios, each pick point scenario requires a user to supply a pick point both within the area to filled and known by the user to be bound by objects. Applicant's present invention requires entry of no such pick point. Instead, Applicant's present invention generates a graphical object comprising a plurality of closed loops using sets of intersecting curves without using a pick point within the area to be filled and known to be bounded by objects.

In regard to Beall's boundary object selection method, Beall teaches that use of intersecting curves causes Beall's boundary object selection method to fail without generating any useful result. Therefore, Beall's disclosure of boundary object selection methods teaches away from the use of intersecting curves to generate a graphical object comprising a plurality of closed loops.

Accordingly, amended independent Claim 1 is believed to be in condition for allowance, and such action is respectfully requested. In addition, amended independent Claims 18 and 35 are apparatus and computer media claims, respectively, substantially corresponding to amended independent Claim 1. Applicant submits that the discussion from above in regard to Claim 1 applies equally to Claims 18 and 35. Therefore, Claims 18 and 35 are believed to be in condition for allowance such action is respectfully requested.

Amended independent Claims 52 to 57 are directed to modification of a typeface, font, or character in accordance with the method of Claim 1. Applicant submits

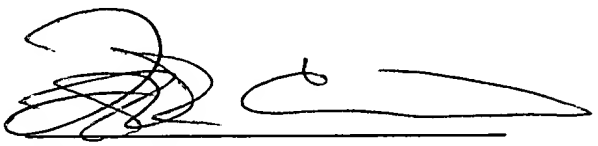
that the discussion from above in regard to Claim 1 applies equally to Claims 52 to 57. Therefore, Claims 52 to 57 are believed to be in condition for allowance such action is respectfully requested.

The other pending claims in this application are each dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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